FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-8043

Lakeview Terrace Mobile Home Park

SUMMARY

Applicant:	**Dick Wells of BCW andGrand Vista LLC**
Facility Name And Address:	**Lakeview Terrace Mobile Home Park** **6856 East French Gulch Road** **Couer D' Alene, Idaho 83814**
Mailing Address of Mobile Park:	**Lakeview Terrace Mobile Home Park** **Route #1s** **Grand Coulee, Washington 99133**
Type of Treatment:	**POTW; Two Lagoons, Two to be lined** **During permit cycle, Final lagoon to be** **Wetland polishing and percolate effluent**
Treatment Plant:	**E1/2, NE1/4, of the SE1/4 of Section 17, T28N, R31E W.M.**
	Latitude: 47° 55' 24"
	Longitude: 118° 56' 12"

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No ST 8043. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the State include procedures for issuing permits (Chapter 173-216 WAC), technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC) and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish the basis for effluent limitations and other requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the _?_ Office of the Washington State Department of Health and by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments

GENERAL INFORMATION	
Applicant	Dick Wells of BCW and Grand Vista LLC
Facility Name and Address	Lakeview Terrace Mobile Home Park
Type of Treatment System:	Facultative Lagoon Treatment, Polishing Wetland and Percolation
Discharge Location	Latitude: 47° 55' 24" N Longitude: 118° 56' 12" W.
Legal Description of Application Area	E1/2,NE1/4 of the SE1/4 of Section 17, township. 28, range .31 E.W.M. Latitude: 47° 55' 25" N. ; Longitude: 118° 56' 13" W.
Contact at Facility	Name: David Rousher ; Telephone #: (208) 769-7091
Responsible Official	Name: David Rousher Title: Owner/Manager Address: Lakeview Terrace Mobile Home Park 6856 East French Gulch Road Coeur D' Alene, Idaho 83814 Telephone #: (208) 769-7091 FAX # (208) 666-8913

BACKGROUND INFORMATION

DESCRIPTION OF THE COLLECTION AND TREATMENT SYSTEM

Lakeview Terrace Mobile Home Park is located adjacent to State Route 174 between Wilbur and Grand Coulee, in Lincoln County, about 75 miles west of Spokane and 3 miles east of Grand Coulee. There are approximately 125 mobile homes in the park and one public restroom. The park has again been sold to another partnership and wastewater improvements are being planned. Adequate wastewater treatment was being engineered prior to the sale of this facility. It is anticipated that the new owners will finish the engineered plans into plans and specifications and ultimately complete the lagoon lining during this permit cycle.

The mobile home park and lagoon area are located in Ewall loamy sand, which is described as a very deep, excessively drained soils which formed on outwash sand. The native vegetation in the area is mainly grasses and sage brush. Permeability of this soil is described as very rapid. The area is, as expected, fairly arid. The average annual precipitation in the Grand Coulee area is 10.7 inches, with the majority occurring as snow. The mean annual temperature is about 49^{o} F, with extremes of 113^{o} F and -17^{o} F.

There are two wells which supply water to the mobile home park. They are located approximately 2500’ and 3500’ upgradient of the treatment pond at elevation 1680’ and 1760’ respectively.

HISTORY

The original sewerage system was constructed around 1965 and was reviewed and approved by Lincoln County. There appears to be no record of any design information on the original sewage system.

In 1996, an investment partnership, BCW and Associates, purchased the mobile home park from the previous owners, the Geislers. Now in 2004 another limited partnership, Grand Vista LLC has taken over the management with an option to buy the mobile home park. The Geislers committed to the new owners that the actions necessary to bring the wastewater facilities in compliance with the Department’s requirements would be met. The 1999 to 2004 permit cycle has seen the development of an approvable Engineering Report. The 2005 to 2010 permit should see the construction of the proposed facilities.

COLLECTION SYSTEM STATUS

There is still no information on the design of or the condition of the collection system. A map and short study of the collection system will be required in this up coming permit.

TREATMENT PROCESSES

The existing collection system gravity flows to the three small earthen lined wastewater ponds for treatment and disposal to groundwater by percolation. These ponds are located below the park, about 1200' northeast of the mobile homes at an elevation of about 1520'. It does not appear that the liquid is retained for any length of time in the lagoon cells. The last cell is dry. The first small cell receives the raw wastewater and discharges into the second small cell. The second cell is completely covered with vegetation and the wastewater finishes percolating to ground in this cell.

There is a letter from a hydrologist retained by DCW and associates which indicates the two wells are sufficiently upgradient to be out of danger of contamination from the treatment lagoon percolate. This hydrologist and a further hydrologist report by Dr. Kevin A. Lindsey find it highly likely that the groundwater in the area flows generally to the north taking pond percolate away from the drinking water wells. The hydraulically nearest well log is for a well to the east of the lagoon. This well log is listed in this and the last permit application.

Design criteria are now available for the proposed wastewater system with two lined lagoons. The design criteria are:

Parameter	Design Measure
Annual Average Daily Flow	16,000 gpd
Annual Average BOD_5	255 mg/l or 34 lbs/day
Annual Average Total Kjeldahl Nitrogen (TKN)	56 mg/l or 7.5 lbs/day
Expected Total Nitrogen Removal (Wetland Treatment Alone)	50%

INFILTRATION BASIN

The final polishing wetland pond is planned to be only lined half way to the end from the influent end of this wetland polishing pond. This will result in the remaining effluent percolating out of the root zone of the wetland plants in the unlined portion of the wetland polishing pond. It is anticipated that these wetland plants will never allow as much as 50% of the Total Kjeldahl Nitrogen in the wastewater that enters the final polishing lagoon to percolate to groundwater. A perforated pipe vadose zone collection device will be used to check what concentration of salts and Nitrogen compounds are being transported to the groundwater.

RESIDUAL SOLIDS

The treatment facilities remove solids during the treatment of the wastewater at the headworks (grit and screenings), in addition to incidental solids (rags, scum, and other debris) removed as part of the routine maintenance of the ponds and headworks. Grit, rags, scum and screenings are drained and disposed of as solid waste at the local landfill. Any solids removed from the lagoon will be land applied under a permit from the Grant County Health District.

GROUND WATER

A groundwater evaluation has been accomplished as part of the engineering report for Lakeview Terrace Mobile Home Park. This report by Kevin A. Lindsey confirms that the groundwater in the area is moving roughly to the north towards Lake Roosevelt at a little over one foot per day.

The depth to groundwater in the area is between 120' and 200' below the ground surface. The salts and other contaminants in the wastewater are introduced a considerable distance down gradient of the domestic drinking water wells for the mobile home park.

PERMIT STATUS

The previous permit for this facility was issued on March 26, 1999

An application for permit renewal was submitted to the Department on July 1, 2004 and accepted by the Department on July 8, 2004.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on January 31, 2005. A compliance inspection without sampling was conducted in 1997.

During the history of the previous permit, the Permittee has remained in compliance based on a rather incomplete submittal of Discharge Monitoring Reports (DMRs) and other reports submitted to the Department and inspections conducted by the Department.

WASTEWATER CHARACTERIZATION

The concentration of some of the pollutants in the discharge was reported in the permit application. Regular discharge monitoring reports have not been received. The proposed wastewater received at the first lagoon has been characterized for the following parameters:

Table 1: Wastewater Characterization

Parameter	Concentration			Number of Analyses
	Minimum	Maximum	Average	
BOD (5 day)	69	705	342.5	6
Nitrate	<0.7	1.11	.025	6

Parameter	Concentration			Number of Analyses
	Minimum	Maximum	Average	
BOD (5 day)	69	705	342.5	6

Nitrate	<0.7	1.11	0.25	6

Table 2: Wastewater Characterization

Parameter	Concentration

SEPA COMPLIANCE

A SEPA checklist has been prepared for this project by Mr. Richard Wells. This signature on the checklist is appropriate since Mr. Wells was the manager at the time of preparation of the engineering report. The SEPA process was completed and resulted in a Determination of Non-Significance (DNS) on September 9, 2004. The improvements project is ready to have Plans and Specifications prepared for final construction.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the State. The minimum requirements to demonstrate compliance with the AKART standard are derived from the *Water Reclamation and Reuse Standards*, the *Design Criteria for Municipal Wastewater Land Treatment*, and Chapter 173-221 WAC.

The permit also includes limitations on the quantity and quality of the wastewater applied to the infiltration bay that have been determined to protect the quality of the ground water. The approved engineering report includes specific design criteria for this facility. Water quality-based limitations are based upon compliance with the Ground Water Quality Standards (Chapter 173-200 WAC).

The more stringent of the water quality-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). The following permit limitations are necessary to satisfy the requirement for AKART as found in (WAC 173-221-050):

45 mg/l BOD and 45mg/l TSS as a Thirty Day average.

65 mg/l BOD and 65 mg/l TSS as a 7-day average

If the first two lagoons fail to achieve 45 mg/l BOD (Thirty Day average) and 65 mg/l (7-day average) the BOD and TSS limitations may be relaxed to achievable numbers for the lagoons as they are constructed and operated.

GROUND WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. Drinking water is the beneficial use generally requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

Applicable ground water criteria as defined in Chapter 173-200 WAC and in RCW 90.48.520 for this discharge include the following:

Table 3: Ground Water Quality Criteria

Total Coliform Bacteria	1 Colony/ 100 mL
Total Dissolved Solids	500 mg/L
Chloride	250 mg/L
Sulfate	250 mg/L
Nitrate	10 mg/L
pH	6.5 to 8.5 standard units
Manganese	0.05 mg/L
Total Iron	0.3 mg/L
Toxics	No toxics in toxic amounts

The Department has reviewed existing records and is unable to determine if background ground water quality is either higher or lower than the criteria given in Chapter 173-200 WAC; therefore, the Department will use the criteria expressed in the regulation in the proposed permit. The discharges authorized by this proposed permit are not expected to interfere with beneficial uses.

Pollutant concentrations in the proposed discharge exceed ground water quality criteria with technology-based controls which the Department has determined to be AKART. A limit based on ground water criteria is established and applied at the end of treatment. These limitations will be reviewed after data is available from the Vadose Zone monitoring device that is to be placed under the wetland polishing lagoon. Any new limits found to be necessary to protect groundwater will be placed in the next permit in 2010.

The resultant effluent limits are as follows:

Table 4: Water Quality-based Limitations.

Parameter	Limitation	Measurement Location
Flow	20,780 gpd	Influent to Lagoon #1

Total Kjeldahl Nitrogen	43 mg/l	Prior to wetland Pond

No valid upgradient background data were available for the listed pollutant. The Permittees (BCW and Grand Vista LLC) is required in section S1., S5. and S9. of the proposed permit to collect percolate concentrations near the point of discharge. This information may result in a permit modification or limits in the next permit renewal.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED IN MARCH OF 1999

Table 5: Comparison of Previous and New Limits

Parameter	Existing Limits	Proposed Limits
Flow	To Be Determined	20,780 gpd
Total Kjeldahl Nitrogen	To Be Determined	43 mg/l

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

INFLUENT AND EFFLUENT MONITORING

The monitoring and testing schedule is detailed in the proposed permit under Condition S1 and (S.5 and S.9). Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Monitoring for influent flow and the Kjeldahl Nitrogen being applied to the polishing wet land is being required to further characterize the effluent. These pollutants could have a significant impact on the quality of the ground water. Operational monitoring of the Vadose zone below the wetlands polishing lagoon will demonstrate how well the wetland is operating to control the flux of Nitrogen and inorganic salts to the groundwater in Spring Canyon.

VADOSE ZONE MONITORING

The unsaturated or intermittently unsaturated Vadose zone flow under the polishing wetland shall be monitored by means of a perforated pipe running the width of the wetland lagoon cell. Water percolating through the wetland will be partially captured and analyzed for the various different forms of nitrogen and salt residues. This data shall be collected under the authority of the Operations and Maintenance Manual such that the results will not be used for enforcement of any ground water standards impacts. In the next permit or in the case of severe impacts a permit re-issuance, more restrictive loading limitations or groundwater monitoring may be imposed to ensure the protection of groundwater resources.

GROUND WATER MONITORING

The monitoring of ground water at the site is required in accordance with the Ground Water Quality Standards, Chapter 173-200 WAC. The Department has determined that this discharge has a potential to pollute the ground water. Therefore the Permittee is required to evaluate the impacts on ground water quality. Monitoring of the ground water at the boundaries of the site is considered impractical at this site. Monitoring the percolate water under the wetland polishing lagoon will be required in order to ensure compliance with the Groundwater Standards.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110).

FACILITY LOADING

The design criteria for this treatment facility are taken from the March 2003 engineering report prepared by Spink Engineering and are as follows:

Annual average Daily Flow:	16,000 gpd
Approximate Maximum Service Population	160 persons
Annual average BOD_5	290 mg/l or
	38.7 lbs/day
Annual average Total Kjeldahl Nitrogen (TKN)	56 mg/l or
	7.5 lbs/day

The permit requires the Permittees (BCW and Grand Vista LLC) to maintain adequate capacity to treat the flows and waste loading to the treatment plant (WAC 173-216-110[4]). The Permittees (BCW and Grand Vista LLC) are required to submit an engineering report when the plant reaches 85% of its flow or loading capacity. For significant new discharges, the permit requires a new application and an engineering report (WAC 173-216-110[5]). : The permit requires the Permittees (BCW and Grand Vista LLC) to submit a report comparing the actual flow and waste loadings to the design criteria for the plan,

The primary permit condition that ensures compliance with loading limitations is the hydraulic loading limit of 18,925 gallons per day. The nitrogen loading limit to the wetland polishing cell will protect ground water but nitrogen wasted from any given household is quite variable, and can potentially be modified by modifying kitchen habits.

<u>Clear water Inflow Reduction</u>

The Lakeview Terrace Sewer system currently collects wastewater from 90 to 100 people. The Lakeview Terrace Sewer system is excavated into sandy soils with no water table within over a hundred feet of the surface. The flow meter at the sewer lagoons

registers over 16,690 gallons per day more than 10% of the winter days when values have been reported. The national average for water usage for normal (not low flow) plumbing fixtures is less than 100 gallons per capita per day. 167 gallons per capita per day is over 66 gallons a day more than is required to do household water tasks. It is suspected from analyzing the flow records that water is being left running in the winter to keep plumbing from freezing in some of the homes at Lakeview Terrace. The excess 6,000 to 7000 gallons per day will ultimately shorten the residence time in the Lakeview Terrace Sewage Lagoons and lead to a reduction in treatment capacity. The Treatment system can be sized to handle this flow but the cost of doing so will far exceed the cost of better insulation and heat taping exposed plumbing. This permit will require the Lakeview Terrace Mobile Home Park management to reduce this flow and eliminate or minimize this practice during this permit cycle.

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.5. as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment. The Operations and Maintenance (O&M) Manual will also contain an Appendix A which shall be an agreed schedule of monitoring for the Vadose Zone monitoring device buried under the percolating part of the polishing wetland.

RESIDUAL SOLIDS HANDLING

To prevent water pollution the Permittees (BCW and Grand Vista LLC) are required in permit condition S6. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards.

The final use and disposal of sewage sludge from this facility is regulated by U.S. EPA under 40 CFR 503 and by Ecology under Chapter 70.95J RCW and Chapter 173-208 WAC. The disposal of other solid waste is under the jurisdiction of the local health district.

Requirements for monitoring sewage sludge and recordkeeping are included in this permit. This information will by used by Ecology to develop or update local limits and is also required under 40 CFR 503.

GROUND WATER QUALITY EVALUATION (HYDROGEOLOGIC STUDY)

In accordance with WAC 173-200-080, the last permit required the Permittee (BCW) to prepare and submit a hydrogeologic study for Departmental approval. This hydrogeologic study has been accomplished as part of the engineering report for the expansion of the facilities. This report contains sufficient soil and hydrogeologic characteristics of the site to allow as complete as is possible, an assessment of the impacts on ground water.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all domestic wastewater discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to submit written notice of significant increases in the amount or nature of discharges (typically new mobile home hook-ups) into the sewer system tributary to the permitted facility. Condition G6 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G7 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Condition G8 requires application for permit renewal 180 days prior to the expiration of the permit. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that the permit be issued for five, (5) years.

REFERENCES FOR TEXT AND APPENDICES

Faulkner, S.P., Patrick Jr., W.H., Gambrell, R.P., May-June, 1989. Field Techniques for Measuring Wetland Soil Parameters, Soil Science Society of America Journal, Vol. 53, No.3.

Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20 pp.

Washington State Department of Ecology and Department of Health, 1997. Water Reclamation and Reuse Standards, Ecology Publication # 97-23. 73 pp.

Washington State Department of Ecology.

Laws and Regulations(http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information (http://www.ecy.wa.gov/programs/wq/wastewater/index.html)

Washington State Department of Ecology, 1996. Implementation Guidance for the Ground Water Quality Standards, Ecology Publication # 96-02.

Washington State University, November, 1981. Laboratory Procedures - Soil Testing Laboratory. 38 pp.

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department will publish a Public Notice of Draft (PNOD) on April 18, 2005 in the Columbia Basin Herald to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Eastern Regional Office
4601 North Monroe Street
Spokane, Washington 99205-1295

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (509) 329-3400, or by writing to the address listed above.

This permit was written by Kim H. Sherwood.

APPENDIX B--GLOSSARY

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy,

crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

APPENDIX D--RESPONSE TO COMMENTS